CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method, comprising:

slicing a block of data into a plurality of data slices;

appending a slice header to each of the plurality of data slices;

scheduling the plurality of data slices for transmission onto an optical switching network during fixed time slots, wherein the block of data comprises a data stream, wherein the slice headers each include a fragment identifier ("ID") indicating an order of each of the plurality of data slices and a data stream ID identifying the data stream from a plurality of other data streams; and

establishing optical paths through the optical switching network, wherein establishing the optical paths includes executing a Resource Reservation Protocol—Traffic Engineering ("RSVP-TE") signaling protocol, wherein the RSVP-TE signaling protocol includes a hybrid optical bursts switching ("OBS") network extension[[.]], wherein establishing the optical paths further includes establishing the optical paths through the optical switching network prior to scheduling the plurality of data slices for transmission, wherein establishing the optical paths and scheduling the plurality of data slices are independent of each other.

2. (Previously Presented) The method of claim 1 wherein the-data stream is received from another network and is buffered at an edge node of the optical switching network.

3. (Cancelled)

4. (Previously Presented) The method of claim 2, further comprising:

transmitting the plurality of data slices onto the optical switching network as an optical burst, the optical burst including fixed length cells containing the plurality of data slices with the slice headers appended thereto

5. (Original) The method of claim 4 wherein each of the fixed length cells includes N data slices of the plurality of data slices, where N is a whole number greater than one.

6. (Original) The method of claim 4, further comprising appending a burst header to a first one of the plurality of data slices.

7. (Previously Presented) The method of claim 2 wherein scheduling each of the plurality of data slices for transmission onto an optical switching network comprises scheduling the plurality of data slices into multiple optical bursts, the plurality of data slices to be reassembled via the slice headers.

8. (Original) The method of claim 7 wherein each of the plurality of optical bursts are transmitted on different carrier wavelengths.

9. (Original) The method of claim 8 wherein the fixed time slots are of constant length throughout the optical switching network for optical bursts transmitted on a single one of the carrier wavelengths, but vary in length between the different carrier wavelengths.

10. (Cancelled)

11. (Cancelled)

12. (Currently Amended) A processor-readable storage that stores instructions, which when executed by a processor, will cause the processor to perform operations comprising:

slicing data blocks into data slices;

generating slice headers to append to each of the data slices, wherein each of the slice headers includes a fragment identifier ("ID") identifying an order of the appended

data slice and a data stream ID identifying one of the data blocks from which the appended data slice was sliced;

scheduling the data slices for transmission onto an optical switching network within optical bursts, the optical bursts formed of fixed length optical cells; and

establishing optical paths through the optical switching network, wherein establishing the optical paths includes executing a Resource Reservation Protocol—Traffic Engineering ("RSVP-TE") signaling protocol, wherein the RSVP-TE signaling protocol includes a hybrid optical bursts switching ("OBS") network extension[[.]], wherein scheduling the data slices further includes scheduling the data slices after establishing the optical paths through the optical switching network, wherein scheduling the data slices is independent of establishing the optical paths through the optical switching network.

13. (Cancelled)

14. (Currently Amended) The processor-readable storage of claim [[13]] 12, further containing instructions, which when executed by the processor, will cause the processor to perform further operations, comprising buffering data streams received from another network to generate the data blocks.

15. (Previously Presented) The processor-readable storage of claim 14 wherein scheduling the data slices for transmission comprises scheduling the data slices from multiple ones of the data streams into one of the optical bursts based on a scheduling algorithm.

16. (Cancelled)

17. (Previously Presented) The processor-readable storage of claim 12 wherein scheduling the data slices for transmission comprises scheduling a set number of the data slices into each of a first subset of the fixed length optical cells to be transmitted on a first carrier wavelength and scheduling a different number of the data slices into each of a

second subset of the fixed length optical cells to be transmitted on a second carrier wavelength.

18. (Previously Presented) The processor-readable storage of claim 12, further containing instructions, which when executed by the processor, will cause the processor to perform further operations, comprising:

generating burst headers for each of the optical bursts; and

appending one of the burst headers to a first one of the data slices in each of the optical bursts.

19. (Currently Amended) An edge node of an optical switching network, comprising:

a stream slicer to slice a data block into data slices;

a header pre-append block communicatively coupled to receive the data slices from the stream slicer and to append a slice header to each of the data slices;

a scheduler coupled to schedule the data slices into fixed length time slots after an established optical path exists through the optical switching network; and

a burst transmit block coupled to generate an optical burst for transmission onto the optical switching network, the optical burst to include the data slices with the appended slice headers, wherein the burst transmit block converts a group of the data slices from an electrical realm to an optical realm after the entire optical burst comprising the group of the data slices has been scheduled, wherein the burst transmit block is further coupled to generate the optical burst as a series of fixed length optical cells, each of the optical cells containing a fixed number of the data slices and appended slice headers, wherein the burst transmit block is further coupled to generate optical bursts through [[an]] the established optical path through the optical switching network, wherein the established optical path includes a path defined by the execution of a Resource Reservation Protocol—Traffic_Engineering ("RSVP-TE") signaling protocol, wherein the RSVP-TE signaling protocol includes a hybrid optical bursts switching ("OBS") network extension[[.]], wherein the scheduler schedules the data slices independent of the RSVP-TE signaling protocol.

20. (Cancelled)

21. (Cancelled)

22. (Previously Presented) The edge node of claim 19 wherein the scheduler is coupled to schedule additional data slices into additional optical bursts according to a scheduling algorithm for transmission on different carrier wavelengths through the optical switching network.

23. (Original) The edge node of claim 19, further comprising a buffer communicatively coupled to the stream slicer, the buffer to receive data streams from another network and buffer the data streams as the data blocks.

24. (Original) The edge node of claim 19, wherein the header pre-append block is further coupled to generate a fragment identifier ("ID") and a data stream ID for each of the data slices, the slice header comprising the fragment ID and the stream ID.

25. (Currently Amended) A system, comprising:

an edge node to receive data streams from a first network, the edge node comprising:

a stream slicer to slice the data streams into data slices;

a header pre-append block to append a slice header to each of the data slices;

a scheduler to schedule the data slices for transmission within fixed length optical cells; and

a burst transmit block to generate optical bursts containing the fixed length optical cells, the optical bursts to be transmitted during fixed time slots<u>, the burst transmit block to convert a group of the data slices from an electrical realm to an optical realm after an entire optical burst of the group of the data slices has been scheduled</u>; [[and]]

an egress node optically coupled to receive the optical bursts and to deliver the data streams to a second network;

a plurality of switching nodes optically coupled between the edge node and the egress node to route the data streams from the edge node to the egress node,

wherein the scheduler schedules the data slices independently of a signaling protocol used to establish a path across the plurality of switching nodes, wherein the scheduler additionally schedules the data slices after the signaling protocol establishes the path across the plurality of switching nodes; and

a management station to establish optical paths through the second network, wherein establishing the optical paths includes executing a Resource Reservation Protocol—Traffic Engineering ("RSVP-TE") signaling protocol, wherein the RSVP-TE signaling protocol includes a hybrid optical bursts switching ("OBS") network extension.

26. (Cancelled)

27. (Previously Presented) The system of claim 25 wherein the scheduler is further coupled to schedule the data slices from one of the data streams into multiple ones of the optical bursts according to a scheduling algorithm for transmission to the egress node, each of the optical bursts to be transmitted on a different carrier wavelength.

28. (Previously Presented) The system of claim 25 wherein the header pre-append block is further configured to generate a fragment identifier ("ID") and a data stream ID for each of the data slices, and wherein the slice header comprises the fragment ID and the stream ID.

29. (Previously Presented) The system of claim 28 wherein the egress node is further configured to reassemble the data slices of one of the data streams prior to delivering the one of the data streams to the second network, if the data slices arrive at the egress node out of order.